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TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION UNIVERSITY FARM ST. PAUL 1, MINNESOTA

No. 302

More Ties on Better Sites

As the productive capacity of forest land improves, more and better grades of railroad cross ties are obtained per acre of similarly stocked area. The effect of site is more striking than is generally assumed. Recent studies of timber yields of mixed-oak farmwoods in southwestern Wisconsin have indicated the following yields of cross ties obtainable from well-stocked stands (predominantly red oak) at 100 years of age:

Site quality	Average d.b.h. of dominant trees	8-foot ties		Grades 3, 4, 5
		Per acre	Per tree	
	<u>Inches</u>	<u>Number</u>	<u>Number</u>	<u>Percent</u>
Very poor	10.4	100	1.0	38
Poor	12.3	172	1.4	52
Medium	14.1	273	2.3	62
Good	15.9	316	3.0	78
Very good	17.7	360	3.8	88

As compared to very poor sites, medium sites produce more than 2-1/2 times and very good sites more than 3-1/2 times as many cross ties per acre. The proportion of grades 3, 4, and 5, also increases rapidly with the increase in site quality. The probable returns per acre, therefore, are increased by both quantity and quality of ties produced on the better sites.

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